Compost and Mulch Capacity Worksheet

Parcel Area	% Area Cooking/ Curing	% Area Storage	% Area for Support	No. of Piles	Pile Length (ft)	Pile Width (ft)
COMPOST - WINDROWS						
5,000 sf	60	17	24	4	35	8
40,000 sf	63	22	15	8	80	14
2 acres	60	29	12	8	160	14
5 acres	53	28	19	14	1930 / 700	14 / 20
10 acres	53	28	19	28	1930 / 700	14 / 20
COMPOST - AERATED STATIC PILES						
5,000 sf	60	32	8	2.5	50	18
40,000 sf	59	19	22	6	68	25
2 acres	59	19	22	11	70	25
5 acres	54	29	17	22	75	25
MULCH						
5,000 sf	40	0	60	1	35	30
40,000 sf	54	15	30	3	73	50
2 acres	55	14	31	3	200	40
5 acres	44	25	31	4	200	50
10 acres	44	25	31	9	200	50

Windrow composting - traditional composting in long piles. Pile width and height are set to allow na

Aerated composting - uses expensive blower and cover systems and continuous monitoring to accele

Mulch manufacturing - similar to traditional composting, but as there is much lower C/N levels, does

Parcel Area - area used for organics processing. Per MDE Reg's this includes feedstock receiving, fee
not include livestock areas.

% Area Cooking/Curing - includes piles and aisles for pile access

% Area Storage - storage of finished product

% Area for Support - includes feedstock receiving, grinding, equipment storage and waste storage

No. of Piles - piles of cooking and curing

Volume - small width piles are calculated by: L x W x H x 2/3. large width piles are flatter across the t

Aisle width - are set by fire code/MDE regulations for wood waste facilities. Need enough room to r

Processing time (days) - determined by the type of product and the technology used. Windrow proc
compost piles will take 60 - 90 days. Because mulch is desired to remain "woody" - typical processin

Unsustainable Vol (cy/yr) - This is the production volume if the facility is working at its crazy point, ev
holidays, employees out sick, equipment breakdowns, snow storms, etc. Feedstocks have cycles as v

Lower Range Capacity (cy/yr) - 30% of Unsustainable volume. Clearly operating, but may not be the

Highest Range Capacity (cy/yr) - 80% of Unsustainable Volume. This is a busy, motivated, profit-drive

Average Tractor Trailers (per week) - used for wholesale sales - Walking Floor trailers are 53' long. Ca
each trailer out (volume reduction during processing). Assumed no back-hauling (thus the trailer is e

Average Dump / Stakebody (per week) - typically used by landscapers for hauling loads for a particula

Peak Tractor Trailers (per wk) - 70% of wholesale mulch (and to a lesser extent, compost) is needed t

Shaded areas in Trucks per Week section are impractical. Small facilities would likely load on landsca
portion of his/her day loading landscape trucks, and would likely sell product in bulk.

Pile Height (ft)	Volume (cy)	Aisles (ft)	Processing time (days)	Unsustain-able Vol (cy/yr)	Lower Range Capacity (cy/yr)	Average Tractor Trailers (per wk)
6	41.5	7	180	201.9	60.6	1
7	193.6	20	180	1884.2	565.3	1
7	387.2	20	180	3768.4	1130.5	1
7 / 9	555.8	20	180	9467.2	2840.2	2
7 / 9	277.9	20	180	18934.3	5680.3	3
8	177.8	5	75	1297.8	389.3	1
9	377.8	5	75	6618.7	1985.6	1
9	388.9	5	75	12491.1	3747.3	2
9	416.7	5 / 10	75	26766.7	8030.0	5
10	259.3	30	90	630.9	189.3	1
10	901.2	30	90	6579.0	1973.7	1
10	1975.3	30	90	14419.8	4325.9	3
10	2469.1	30	90	24032.9	7209.9	4
10	2469.1	30	90	54074.1	16222.2	9

tural ventilation of the pile.

erate the natural decomposition. Plan on $0.5-$1.0 Million/acre, before heavy equipment. Best for small

not need as much time to produce a product. Market demand often dictates storage volumes.

dstock preparation, active composting, curing, storage, equipment storage (not used for general farming),

top and are calculated by: L x W x H x 3/4.

nove between piles.

essing can take a little as 180 days (6 months) for a ground grass and leaves mix. A fall leaf mix (ungrounc
g is 90 days

very inch of space being used at maximum capacity and then assumed to happen every day for the entire
well; little yard trim is available in February, March and hot dry August.

primary business.

en business. Operators and Management constantly complain about lack of space.

apacity is 106 cy. We assumed operators only filling them to 100 cy. [This makes more trailers - the boss
mpty on way out if dropping material off).

ar job. Assumed 10 cy per truck. A facility selling this way may have residents purchasing as well. Assum

o landscapers in February-March (8 weeks). This is number of tractor trailers/week during peak delivery

ape trucks or dump trucks instead of loading onto walking floor tractor trailers. Conversely, a larger produ

Average Dump / Stakebody (per wk)	Highest Range Capacity (cy/yr)	Average Tractor Trailers (per wk)	Average Dump / Stakebody (per wk)	Peak Tractor Trailers (per wk)
1	161.5	1	1	1
3	1507.3	1	8	2
6	3014.7	2	16	3
15	7573.7	4	38	7
29	15147.5	8	76	14
2	1038.2	1	6	1
10	5294.9	3	27	5
19	9992.9	5	50	9
41	21413.3	11	108	19
1	504.7	1	3	1
10	5263.2	3	27	5
22	11535.8	6	58	11
37	19226.3	10	97	17
82	43259.3	22	217	38

spaces, odor concern areas, or high nitrogen feedstocks.

, maintenance areas, and storage of waste materials. Does

d) would take 270 - 540 days (9 - 18 months). Aerated

year . This cannot be sustained as there are weekends,

will be angry when he finds out] Assumed 1.6 trailers in for

ed material comes in the way too.

time. Assumed from Highest Range Capacity site.

uction organics processor does not want to devote a good